# Ecological MONOGRAPHS

OFFICIAL PUBLICATION OF THE ECOLOGICAL SOCIETY OF AMERICA

Volume 68, 1998

Published Quarterly at Washington, D.C. by the Ecological Society of America

## **Ecological Monographs**

VOL. 68 • NO. 4 • November 1998

ISSN 0012-9615

#### **EDITOR-IN-CHIEF**

Robert K. Peet

University of North Carolina at Chapel Hill

#### **BOARD OF EDITORS**

Marc D. Abrams. Pennsylvania State University Peter A. Abrams, University of Maryland Ion Agren, Umea University

W. Scott Armbruster, Norwegian University of

Science and Technology Catherine E. Bach, Eastern Michigan University William L. Baker, University of Wyoming R. Alan Black, Washington State University John M. Blair, Kansas State University Michael A. Bowers, University of Virginia William E. Bradshaw, University of Oregon Charles Brown, University of Tulsa Ragan M. Callaway, University of Montana

Charles D. Canham, Institute of Ecosystem James S. Clark, Duke University

Keith Clay, Indiana University James S. Coleman, Desert Research Institute Edward F. Connor, San Francisco State University Larry B. Crowder, Duke University Clifford N. Dahm, University of New Mexico Hans de Kroon, Agricultural University, Wageningen

Diane De Steven, University of Wisconsin-Milwaukee

Philip M. Dixon, Iowa State University Edward W. Evans, Utah State University John M. Fryxell, University of Guelph Deborah Gordon, Stanford University Richard K. Grosberg, University of California-Davis Mark A. Hixon, Oregon State University Michael A. Huston, Oak Ridge National Laboratory Anthony Joern, University of Nebraska Alan K. Knapp, Kansas State University Carlos Martinez del Rio, University of Arizona Bruce Menge, Oregon State University Donald B. Miles, Ohio University Douglas W. Mock, University of Oklahoma Roger M. Nisbet, University of California-Santa Barbara

Craig Osenberg, University of Florida Richard S. Ostfeld, Institute of Ecosystem Studies Hans W. Paerl, University of North Carolina Barbara L. Peckarsky, Cornell University Kurt S. Pregitzer, Michigan Technological University David N. Reznick, University of California-Riverside

Scott K. Robinson, Illinois Natural History Survey Terry L. Root, University of Michigan Kimberly G. Smith, University of Arkansas Val H. Smith, University of Kansas Allison A. Snow, Ohio State University Andrew R. Solow, Woods Hole Oceanographic Institution

Allan Stewart-Oaten, University of California-Santa Barbara

Andrew D. Taylor, University of Hawaii at Manoa William M. Tonn, University of Alberta Jon Witman, Brown University Joseph B. Yavitt, Cornell University

**Book Review Editor** Janet Lanza, University of Arkansas at Little Rock Data Archive Editor Aaron M. Ellison, Mount Holyoke College

#### MANAGING EDITOR

J. David Baldwin Ecological Society of America

#### **EDITORIAL PRODUCTION STAFF**

David A. Gooding Sarah G. Gagnon Iill Leichter

Associate Editor Technical Editor **Production Assistant** Jane L. Bain Features Editor

Dooley Kiefer Copy Editor Margaret B. Shepard Copy Editor Nancy R. Sorrells Copy Editor Nancy Kleinrock Copy Editor

### TABLE OF CONTENTS VOLUME 68, 1998

#### NUMBER 1, FEBRUARY

| MCPEEK, MARK A.   |                    |
|---|--------------------|
| The consequences of changing the top predator in a food web: a comparative experimental approach AULT, TIMOTHY R., AND CRAIG R. JOHNSON   | 1-23               |
| Spatially and temporally predictable fish communities on coral reefs  | 25-50              |
| Intertidal mussel microclimates: predicting the body temperature of a sessile invertebrate  | 51-74              |
| Biomass and CO <sub>2</sub> flux in wet sedge tundras: responses to nutrients, temperature, and light   | 75–97              |
| Regeneration of three sympatric birch species on experimental hurricane blowdown microsites   | 99-120             |
| Effects of plant composition and diversity on nutrient cycling  Instructions to Authors   | 121–149<br>150     |
| NUMBER 2, MAY   |                    |
| Ohmann, Janet L., and Thomas A. Spies   |                    |
| Regional gradient analysis and spatial pattern of woody plant communities of Oregon forests   | 151-182            |
| Responses of early successional northern hardwood forests to changes in nutrient availability   | 183-212            |
| Stages and spatial scales of recruitment limitation in southern Appalachian forests  Downes, Barbara J., P. S. Lake, E. S. G. Schreiber, and Alena Glaister   | 213-235            |
| Habitat structure and regulation of local species diversity in a stony, upland stream  Karlson, Ronald H., and Howard V. Cornell  | 237-257            |
| Scale-dependent variation in local vs. regional effects on coral species richness   | 259-274            |
| Effects of herbivory on arrowgrass: interactions between geese, neighboring plants, and abiotic factors   | 275-293            |
| Number 3, August  |                    |
| DIDHAM, RAPHAEL K., PETER M. HAMMOND, JOHN H. LAWTON, PAUL EGGLETON, AND NIGEL E. STORK   |                    |
| Beetle species responses to tropical forest fragmentation  CAIN, MICHAEL L., HANS DAMMAN, AND ANGELA MUIR   | 295-323            |
| Seed dispersal and the Holocene migration of woodland herbs   | 325-347            |
| GAONA, PILAR, PABLO FERRERAS, AND MIGUEL DELIBES  |                    |
| Dynamics and viability of a metapopulation of the endangered Iberian lynx ( <i>Lynx pardinus</i> )  | 349-370            |
| The impact of predator-induced stress on the snowshoe hare cycle  GROSSMAN, GARY D., ROBERT E. RATAJCZAK, JR., MAURICE CRAWFORD, AND MARY C. FREEMAN  | 371-394            |
| Assemblage organization in stream fishes: effects of environmental variation and interspecific interac-   |                    |
| tions   | 395-420            |
| Do similar communities develop in similar sites? A test with zooplankton structure and function  Shenk, Tanya M., Gary C. White, and Kenneth P. Burnham   | 421-443            |
| Sampling-variance effects on detecting density dependence from temporal trends in natural populations   | 445–463            |
| Number 4, November  |                    |
| Iverson, Louis R., and Anantha M. Prasad  |                    |
| Predicting abundance of 80 tree species following climate change in the eastern United States LICHTER, JOHN   | 465-485            |
| Primary succession and forest development on coastal Lake Michigan sand dunes   | 487–510            |
| Long-term dynamics of Mediterranean frugivorous birds and fleshy fruits: a 12-year study  | 511-538            |
| Assessing the risk of extinction for the brown bear ( <i>Ursus arctos</i> ) in the Cordillera Cantabrica, Spain LEWELLEN, RUTH H., AND STEPHEN H. VESSEY  The offers of density dependence and weather on population size of a polyvolting species. | 539-570<br>571-594 |
| The effect of density dependence and weather on population size of a polyvoltine species  | 595-596            |